

(No Model.)

W. H. KOEHLER.  
CAR BRAKE.

No. 437,652.

Patented Sept. 30, 1890.

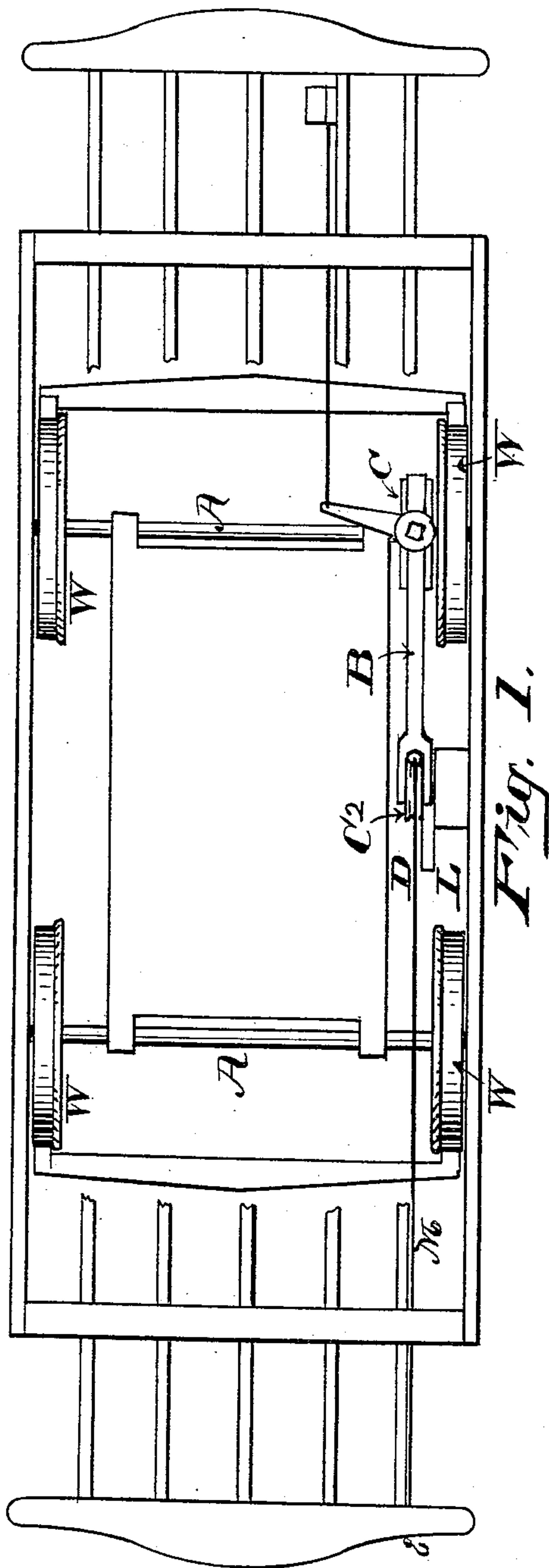


Fig. 1.

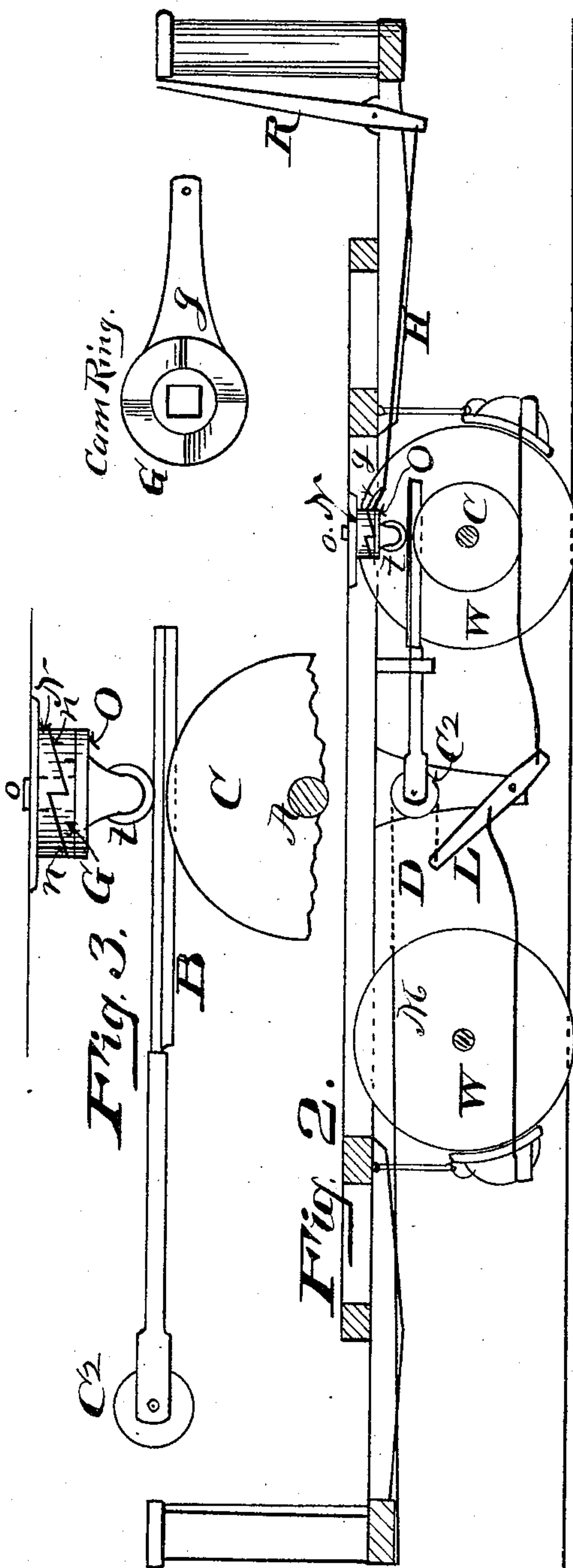


Fig. 3.

Fig. 2.

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# UNITED STATES PATENT OFFICE.

WILLIAM H. KOEHLER, OF CLEVELAND, OHIO, ASSIGNOR OF TWO-THIRDS TO  
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## CAR-BRAKE.

SPECIFICATION forming part of Letters Patent No. 437,652, dated September 30, 1890.

Application filed July 16, 1890. Serial No. 358,986. (No model.)

*To all whom it may concern:*

Be it known that I, WILLIAM H. KOEHLER, a citizen of the United States, residing at Cleveland, in the county of Cuyahoga and State of Ohio, have invented certain new and useful Improvements in Brakes for Street-Railway Motor-Cars, of which the following is a specification.

This invention relates to brakes for stopping street-railway cars; and it consists in the novel constructions and combinations, substantially as hereinafter described, and pointed out in the claims.

In the accompanying drawings, Figure 1 is a top or plan view of a car-truck having my invention attached. Fig. 2 is a longitudinal section of the same. Fig. 3 is an enlarged detail view of the mechanism for operating the brakes.

A A are the axles, and W W are the car-wheels. On one of the axles I fix a grooved wheel C, which is employed for applying power to the brakes derived from the momentum of the car.

B is a bar supported in a loop-hanger *b*, and has a V-shaped portion engaging in the groove of the said wheel C. The opposite end of said bar B is provided with a pulley-wheel C<sup>2</sup>, over which a chain or cord D passes, connected at one end with the brake-lever L, while the other end is connected to a rod M, extending to the rear of the car to connect with the brake mechanism of a trail-car, if desired. Above the aforesaid wheel C is provided a cam-pressure mechanism to be operated by a hand-lever R on the platform. It consists of a disk or plate N, attached to a sill or bar of the truck-frame. Through it is made a square

hole for a square stud *o* on the plate O to work in. The lower side of plate N has cam-inclines *n n*, and to the lower side of plate O is provided a friction-roller *t*, like a caster-wheel, which rests or bears upon the top side of said bar B.

G is a ring fitted to turn on a shoulder on the plate O, and also has cam-inclines on its upperface, which engage with the cam-inclines *n* on the plate N, so that the turning of said ring on the plate O will produce an extension of the plate and roller downward for producing a downward pressure of said roller upon the bar B for the purpose of creating friction between said bar and the wheel, whereby the bar shall be drawn upon for applying the brake mechanism to which it is attached. As a means of turning said cam-ring, it is provided with a lever *g*, connected by rod H with the hand-lever R.

The brake mechanism is of the construction commonly in use.

Having described my invention, I claim as follows:

In power-brake mechanism for motor-cars, the combination, with the axle A, of grooved wheel C, bar B, provided with pulley C<sup>2</sup>, connected by chain or cord D with brake-lever L, and the cam-pressure mechanism consisting of the plate N, having square hole and inclines *n n*, plate O, having stud *o* and roller *t*, and the cam-ring G, having cam-inclines, and lever *g*, connected to and operated by hand-lever R, substantially as specified.

WILLIAM H. KOEHLER.

Witnesses:

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